

ABSTRACT**METHOD OF PROCESSING OSCILLATORY DATA**

A method which permits the transformation of non-stationary response measurements into stationary data for analysis is provided. Many standard analysis techniques, particularly for oscillatory responses, are based on stationary data, and the method allows these techniques to be performed on originally non-stationary data. The method may be a method of processing oscillatory response data from a resonant system comprising: including: obtaining data measuring an oscillatory response of the system; estimating the variation in natural frequency of a mode of said response; filtering the data around a selected frequency to obtain a filtered response; determining a carrier signal whose frequency variation with respect to time is equal in magnitude to said estimated variation in natural frequency; and modulating the amplitude of said carrier signal using said filtered response to obtain a modulated carrier signal. A corresponding system for processing oscillatory response data is also provided.

Figure 20